

Appl No.: 10/623,227
Reply to Office Action of May 01, 2006

Atty. Dkt. No:
UCF-273DIV

Please replace the ABSTRACT on page 32, with the following rewritten Abstract:

--ABSTRACT

A compact hydrogen generator is coupled to or integrated with a fuel cell for portable power applications. In the process of producing hydrogen for the generator via thermocatalytic decomposition (cracking, pyrolysis) of hydrocarbon fuels in an oxidant-free environment, novel carbon products are produced with filamentary surfaces, "octopus"-like carbon filaments, single carbon nanotube fibers and the like. Two novel processes are disclosed for the production of carbon filaments and a novel filamentous carbon product useful in the clean-up of oil spills on the surface of water. The apparatus can utilize a variety of hydrocarbon fuels, including natural gas, propane, gasoline, and sulfurous fuels. The hydrogen-rich gas produced is free of carbon oxides or other reactive impurities, so it can be directly fed to any type of a fuel cell. The hydrogen generator can be conveniently integrated with high temperature fuel cells to produce an efficient and self-contained source of electrical power.